IN THE SPECIFICATION

Replace the paragraph on Page 5, Lines 20-21 as follows:

-- FIG. ~~6~~ 6a shows status tables of a transmission terminal 31 in the first embodiment of the present invention.--

Add the following paragraph after the above identified paragraph:

FIG. 6b shows status tables of a transmission terminal 41 in the first embodiment of the present invention.

Replace the paragraph on Page 14, Lines 7-16 as follows:

-- FIG. 4 shows a schematic functional diagram of a transmission terminal equipped with a reception checking function and a data relaying function in the railway information transmission system which is the first embodiment of the present invention. This diagram takes the transmission terminal 31 of vehicle 3 as an example. The transmission terminal 31 comprises a ~~transmission control block~~ communication controller 18 which transfers data to and from the key transmission lines 51 and 52 and a device controller 18 ~~control block 19~~ which communicates with respective devices in vehicles. --

Replace the paragraph on Page 14, Lines 17-26 as follows:

-- The transmission control block 18 contains transmission/reception processors 20 and 23 which are respectively connected to key transmission lines 51 and 52, a microcomputer 24 and memory 25 which control these transmission/reception processors to check the receiving status and relay data. Memory 25 is used to temporarily store data during reception checking and data relaying and equipped with a status table 253 to be described later. The transmission/reception processors 20 and 23 are connected to the microcomputer 24 with a bus 26. --

Replace the paragraph on Page 15, Lines 11-20 as follows:

-- The buses 26 and 33 of the ~~transmission control block~~ communication controller 18 and the device control block 19 are interconnected with a bus bridge 34 to transfer information between the ~~control blocks~~ controllers 18 and 19 whose timings are different. This enables transfer of data from devices to the key transmission line directly or after processing and transfer of data from the key transmission line to the related devices. The microcomputer for data processing in this example can be substituted by a digital signal processor (DSP), a gate array, or the like. --

Replace the paragraph on Page 15, Line 21 to Page 16, Line 4:

-- FIG. 5 is a flow sheet of data reception by transmission terminals in the first embodiment of the present invention. This example shows only processing of #1 transmission terminals 11 to 41, more particularly processing of #1 transmission terminal 31 in vehicle 3 and #1 transmission terminal 41 in vehicle 4. You can get the description of processing of #2 transmission terminals 12 to 42 by exchanging key transmission lines 51 and 52. The status table of FIG. 6a and Fig. 6b will be explained below before the description of the operation flow of FIG. 5. --

Replace the paragraph on Page 16, Line 5 to Page 17, Line 7 follows:

-- FIG. 6a and Fig. 6b shows status tables for reception check and data repetition in the first embodiment of the present invention. FIG. ~~6 (a)~~ 6a shows status table 253 in memory 25 of the transmission terminal 31 of FIG. 4. FIG. ~~6 (b)~~ 6b shows status table 254 in the transmission terminal 41 (not shown in the drawing). Each originating transmission terminal on the #1 key

transmission line 51 is provided with Received counter, Not Received counter, Repetition Required Flag, and Repetition Start Wait Counter items. These items of the table are initially zeros. Each time receiving data from a transmission terminal, the transmission terminal 31 updates the content of the Received counter for the originating transmission terminal (or increments it by one). This counter is reset to a zero at each cycle (for example 10 ms). The Not Received counter checks the content of the Received counter when the Received counter is reset to zero. When the Received counter is 0, that is, when the transmission terminal 31 receives no data from the originating transmission terminal during the cycle, the Not Received counter is incremented by one. When the Received counter is not 0, that is, when the transmission terminal 31 receives any data from the originating transmission terminal during the cycle, the Not Received counter is reset to zero. The Repetition Required flag is set "1" (turned on) to indicate that there is no data reception during a preset time period (for example, 1 cycle × 3 when the Not Received counter is "3") and that data repetition is required. The Repetition Required flag is reset "0" when the Received counter becomes other than 0. --

Replace the paragraph on Page 18, Lines 7-14 as follows:

-- When no data comes from the #1 key transmission line at the end of this reception processing or at step 503 and the Received counter is not updated, the reception check function directly checks whether data comes from the #2 key transmission line 506. When receiving data from the #2 key transmission line, the transmission terminal (31 or 41) checks whether data repetition is required and relays data if necessary at steps 507 to 509. --

Replace the paragraph on Page 15, Line 15 to Page 19, Line 5 as follows:

-- In other words, at step 507, the transmission terminal checks the content of the status table of FIG. 6a and Fig. 6b. When the Repetition Required flag for the originating transmission terminal is "1" and the Repetition Start Wait counter is "0," the transmission terminal goes to step 508 and passes the received data (from the #2 key transmission line 52) to the #1 key transmission line 51. At the same time, the transmission terminal 31 (or 41) performs data processing such as sending the received data (from the #2 key transmission line 52) to the device control block 19 in the transmission terminal as the data from the originating transmission terminal does not come from the #1 key transmission line. When the content of the status table is other than the above, the transmission terminal 31 (or 41) goes to step 509 and discards the received data. At step 510, the transmission terminal repeats the above steps until the timer reaches the preset time. --

Replace the paragraph on Page 20, Lines 8-24 as follows:

-- Below will be described processing of #1 transmission terminals 31 and 41 in vehicles 3 and 4, assuming that the #1 key transmission line 51 is broken between vehicles 2 and 3 as shown in FIG. 3. When a line break occurs, the transmission terminals 31 and 41 cannot receive data from the transmission terminals in vehicles 1 and 2. Consequently, the Received counters for originating vehicles 1 and 2 remain unchanged. When no data is received for one cycle (10 ms) or longer, the Received counters remain "0." Further, if no data is received for more cycles, the values of the Not Received counters keep on increasing at every cycle. As shown in FIG. 6a and Fig. 6b,

when the Not Received counter reaches a preset value ("3"), the Repetition Required flag is turned on (= "1"). These are the same as those of the transmission terminals 31 and 41 when the #1 key transmission line is broken (see FIG. 3) (including the Repetition Required flags of FIG. ~~6 (a)~~ 6a and ~~(b)~~ 6b. --

Replace the paragraph on Page 20, Line 25 to Page 21, Line 10 as follows:

-- When the Repetition Required flag is updated, the Repetition Start Wait count is set. A value corresponding to the distance between the vehicle 3 (or 4) and the originating vehicle (2 or 1) is set to the Repetition Start Wait counter. In FIG. ~~6 (a)~~ 6a, the value is "1" for the originating vehicle 2 and "2" for the originating vehicle 1. However, when there are two or more originating transmission terminals in an identical direction, a smaller value is set. The value set for the Repetition Start Wait counter is immediately reset to "0" by the update processing of the Repetition Start Wait counter. This value change is expressed by "1 → 0" in FIG. ~~6 (a)~~ 6a. --

Replace the paragraph on Page 21, Lines 11-19 as follows:

-- At about the same time when the #1 transmission terminal 31 in vehicle 3 detects a line break, the #1 transmission terminal 41 in vehicle 4 detects the line break. The values of the Repetition Start Wait counters are all set to a smaller value "2" because the values are "2" and "3" and the originating transmission terminals are in an identical direction. As shown by "2 → 1" in FIG. ~~6 (b)~~ 6b, the values of the Repetition Start Wait counters are "1" at the end of the update processing of the Repetition Start Wait counters. --

Replace the paragraph on Page 21, Line 20 to Page 22, Line 9 as follows:

-- At this time point, the #1 transmission terminal 31 in vehicle 3 starts data repetition when the Repetition Required flag is "1" and the Repetition Start Wait counter is "0." After this, the #1 transmission terminal 31 in vehicle 3 receives data (originated by transmission terminals in vehicles 1 and 2) from the #2 key transmission line 52 and passes it to the #1 key transmission line 51. In this case, the Repetition Required flag of the #1 transmission terminal 41 in vehicle 4 turns on (= "1"), but the #1 transmission terminal 41 receives data which is repeated by the #1 transmission terminal 31 in vehicle 3 before the Repetition Start Wait counter becomes "0" in the next cycle. Consequently, the content of the Received counter in FIG. ~~6 (b)~~ 6b becomes other than "0" and the Repetition Required flag is reset. With this, data repetition is not carried out. --

Replace the paragraph on Page 22, Lines 10-15 as follows:

-- If any failure in vehicle 3 disables data repetition, the transmission terminal 41 cannot receive data that is repeated by the #1 transmission terminal 31 in vehicle 3. Therefore, the Received counter of FIG. ~~6 (b)~~ 6b holds "0" also in the next cycle and the contents of the Repetition Start Wait counters for the originating vehicles 1 and 2 become "0." As the result, transmission terminal 41 in vehicle 4 carries out data repetition. --